

IN THE CLAIMS:

Please cancel Claims 3, 4, 19-27, 30, 31, 46 and 47.

1. An apparatus for separating undesired material from coal comprising:

an air swept pulverizer for breaking up coal into particles where the pulverizer is a hammer mill, bowl mill, roller mill, or ring/roller mill, the pulverizer includes a feed mechanism which introduces coal into the pulverizer, the pulverizer includes an air blower which introduces flowing air into the pulverizer, the pulverizer includes a removal mechanism which removes undesired material and coal which contains a large portion of undesired material from the pulverizer;

a separation mechanism connected to the pulverizer for separating undesired material from coal, the separation mechanism includes a conveyor which carries undesired material and coal which contains a large portion of undesired material from the removal mechanism;

a mechanism for returning coal from which a portion of the undesired material has been removed by the separation mechanism back to the pulverizer for additional grinding; and

a mechanism for diversion of material removed from the pulverizer directly to refuse without going to the separation mechanism.

2. An apparatus as described in Claim 49 wherein the pulverizer includes a feed mechanism which introduces desired and undesired material into the pulverizer.

G 27
5. An apparatus as described in Claim 2 wherein the separation mechanism includes a conveyor which carries undesired material and coal which contains a large portion of undesired material from the removal mechanism.

G 28
8. An apparatus as described in Claim 1 wherein the separation mechanism includes a surge bin disposed adjacent the conveyor into which the undesired material and coal which contains a large portion of undesired material is deposited from the conveyor.

G 29
28. An apparatus for separating undesired material from desired material of a mixture comprising:

a fluid swept comminutor for breaking up the mixture, the comminutor includes a feed mechanism which introduces the mixture into the comminutor, the comminutor includes a fluid blower which introduces flowing fluid into the comminutor, the comminutor includes a removal mechanism which removes undesired material and desired material from the comminutor;

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a separation mechanism connected to the comminutor for separating undesired material from desired material, the separation mechanism includes a conveyor which carries undesired material from the removal mechanism, the separation mechanism includes a surge bin disposed adjacent the conveyor into which the undesired material and desired material is deposited from the conveyor; and

a mechanism for direct rejection of material removed from the comminutor without further processing, the rejection mechanism connected with the comminutor.

29. An apparatus as described in Claim 51 wherein the comminutor includes a feed mechanism which introduces the mixture into the comminutor.

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32. An apparatus as described in Claim 29 including a mechanism for direct rejection of material removed from the comminutor without further processing.

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35. An apparatus as described in Claim 28 wherein the comminutor includes a grinding chamber.

Please add the following claims.

48. An apparatus for separating undesired material from desired material comprising:

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an air swept pulverizer for breaking up the desired material into particles where the pulverizer is a hammer mill, bowl mill, roller mill, or ring/roller mill, the pulverizer includes an air blower which introduces flowing air into the pulverizer;

a separation mechanism which rejects undesirable material removed from the pulverizer and recovers desired material, the separation mechanism separate from the pulverizer; and

a removal mechanism through which undesired material from the pulverizer is brought to the separation mechanism, and connecting the pulverizer with the separation mechanism remote from the pulverizer.

49. An apparatus as described in Claim 48 including a mechanism for returning the desired material to the pulverizer remaining after separation of the undesired material from the separation mechanism, the returning mechanism connected with the pulverizer and the separation mechanism.

50. An apparatus for separating undesired material from desired material of a mixture comprising:

a fluid swept comminutor for breaking up the mixture, the comminutor includes a fluid blower which introduces flowing fluid into the comminutor;

a separation mechanism, the separation mechanism separate from the comminutor for separating undesired material from desired material removed from the comminutor; and

a removal mechanism through which undesired material from the comminutor is brought to the separation mechanism and connecting the comminutor with the separation mechanism remote from the comminutor.

51. An apparatus as described in Claim 50 including a mechanism for returning the desired material to the comminutor remaining after separation of the undesired material from the separation mechanism, the returning mechanism connected with the comminutor and the separation mechanism.

52. An apparatus as described in Claim 51 wherein the separation mechanism includes means for discarding the undesired material separated from the desired material in the separation mechanism.

53. An apparatus for separating undesirable material from coal comprising:

an air swept pulverizer for breaking up coal into particles where the pulverizer is a hammer mill, bowl mill, roller mill, or ring/roller mill, the pulverizer having entry ports passing through the walls of the air swept pulverizer placed at various elevations around the circumference of the pulverizer, with ports at the lowest elevation inside of the working

volume of the pulverizer for accessing hard particles of greatest weight while ports at elevations above the lowest receive hard particles of lower weight;

a separation mechanism separate from the pulverizer which rejects undesirable material removed from the pulverizer and recovers desirable material; and

a removal mechanism connecting the pulverizer through the entry ports to a separation mechanism located outside of the pulverizer, through which material from the pulverizer is brought to the separation mechanism.

54. An apparatus as described in Claim 53 wherein the pulverizer includes a feed mechanism which introduces desired and undesired material into the pulverizer.

55. An apparatus as described in Claim 54 including a mechanism for returning the desirable material to the pulverizer remaining after separation of the undesirable material from the separation mechanism, the returning mechanism connected with the pulverizer and the separation mechanism.

56. An apparatus as described in Claim 55 including means for direct rejection of undesired material removed from the pulverizer, in connection with the pulverizer; and

means for rejection and physical separation from the separation mechanism of material separated in the separation mechanism, in contact with the separation mechanism.
